

Impact of Digital Education on the Academic Performance of Students: A Study of Selected Secondary Schools in Idemili North L.G.A, Anambra State

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Abstract: The study investigated the impact of digital education on the academic performance of secondary students in Idemili North L.G.A, Anambra State. It aimed to discover the effectiveness and ineffectiveness of digital education in schools. The researcher employed a qualitative research approach to evaluate if there was a relationship between digital education and the academic performance of students. The study employed a case study design, and data collection was done through the completion of written interviews where participants articulated their points by filling in the open-ended questions, while face-to-face oral interviews were used to further receive viable information on the subject under investigation. The sampling approach used in this study is stratified sampling. Purposefully, 30 respondents were sampled and categorized into 15 separately for the two schools under study. The principal, teachers, and students made up this number on the ratio of 1:4:10, respectively, for each school. The three strata that were sampled were the students, principals, and teachers of the selected schools who comprehend the impact of digital education on students' performance. Those schools were chosen firstly because of their proximity and accessibility to the researcher. In addition, literatures were reviewed. The study revealed that digital education has benefits for students; these include easy access to information, accessibility of online resources, collaboration enhancement, and creation of personalized learning. The major negative effect of digital education is distraction; it causes students to engage in cyber fraud, immodest lifestyle, and watch pornography. Also, it was found that lack of digital gadgets for effective learning, unavailability of the internet and lack of basic knowledge on digital education, lack of good supervision, and lack of digital facilities are other factors that affect digital education in schools. Therefore, it was recommended that parents, teachers, government, and secondary school stakeholders join in a collaborative effort to make sure digital education is accessible to students in secondary schools. Also, parents should start teaching their children moral discipline right from home; another commendation was that teachers should be held responsible for guiding the students on digital education in secondary school; therefore, they should upgrade themselves to modern-day teachers. Thus, concerning this issue of the negative impact of digital education that is ravaging lives because people cannot defend themselves online, it was recommended that all hands should be on deck to avoid the wrong use of the internet that affects people negatively in colleges and societies.

I. Introduction

Background to the Study

Recent developments in the field of education have shown that digital education has helped in the development of students' academic performance, such as the ability to read effectively, ability to comprehend, ability to understand effectively, and access various resources and information. Recently, reports have shown that Anambra students have improved themselves in digital education. However, certain schools have proven the impact of digital education more pronounced. Schools like Regina Pacis Model Secondary School, Onitsha, showed uncommon commitments to quality education and skills development, among others. As ascribed by Regina Pacis school current director, Obiekezie "their impact was built through character development and academic excellence, stressing that it is understood that Five students of Regina Pacis model secondary school received a gold medal at the world technovation challenge held in Silicon Valley in the United States in 2018" (Obiekezie 2024). Their story is not an isolated case. This has been repeated in three other schools in Anambra, which is a testament to the impact of digital education in Anambra. However, many challenges are faced by students in the usage of digital education, such as constant distraction, lack of motivation when given difficult tasks, inconsistency, negative influence, poor time management, and inability to handle the stress that arises with its use.

Bubou and Job classified their model as "a model developed that clustered the barriers to digital education into a four-dimension conceptual framework that included technological issues, content issues, individual issues, and context issues" (Bubou and Job 2021). These issues are responsible for how far digital learning is taken seriously in Africa. This also suggests that "personal responsibility and self-discipline are required to sustain motivation in digital education." During digital education, there may be drawbacks, especially for students in Nigeria, due to challenges in technology, such as network fluctuation, bad signals, and lack of electricity. All this contributes to technological issues that are faced in digital education and, precisely, the schools under study.

It has been observed in the secondary school under study that content issues have been a challenge; therefore, it is whatever the teacher prescribes to the students that they will read, which is justifiably limited to the information available to the teacher. This implies that teachers are to be effective in the study design scheme; if not, the material will not be relevant to the students. This

individual issue is seen in the student who has come to learn. There is a description of a serious attitude of indiscipline and carefreeness to the learning process; they may prefer to stay away from the process of learning rather than follow through.

However, digital education has many impacts on students' academic performance. It is one of those places where learning will take place. As ascribed by Daniela, "It is essential to prepare students for learning and understand what support measures are needed; this could be used in general education to provide the student with appropriate education for their specific needs" (Daniela 2022). Thus, digital education helps students to be well-prepared for learning. Hence, when students access digital education, it allows them to learn and suggest their intelligence quotient, which is possible through that process by the teacher.

In connection, it has been observed that teachers train their students with various e-learning facilities to communicate with them when they are unable to interact with them to curb their bad behavior. The communication barrier has been a big challenge to digital education because most of the students have not grasped the second language (English) on which they are built. Thus, many students may have conceded that their performance cannot be measured using digital education. This may be true, but eventually it may be possible that they can be measured. This research seeks to find out the impact of digital education on the academic performance of secondary school students.

Statement of the Problem

Despite previous research, little attention has been paid to examining the impact of digital education on the academic performance of students; the researcher seeks to understand what is effective or ineffective to help students improve their learning through digital education.

It has been observed that some students find it difficult to adjust to digital education because of their exposure to the traditional forms of education, such as rote learning, for too long. When compared with normal learning outcomes in the classroom, students learn faster using digital gadgets because the pictures they see resonate well with their retention. Also, they feel fascinated, which makes them inquisitive and want to learn more, and if there is interest, the chance of their performance is high. The study seeks to understand the strengths and weaknesses of digital education for students.

Moreover, it has been observed that some students portray an attitude of indiscipline by smuggling expensive phones into the schools, which makes them easily distracted. The problem of indiscipline in schools has persisted over the years. Masingi opines, "Indiscipline does not only disturb educators; many community members, as well as different stakeholders and political structure, express different views, including religious belief on this matter."

However, with the incidence of COVID-19, the table has turned, and as Masingi suggested, "many educators are frustrated because they have to teach under conditions that are unbearable" (Masingi 2017, 2). After observing the need for them to be taught alongside those gargets, they will also need to be taught the ethics involved in its use to be efficient. The researcher is considering how students could be self-disciplined with personal responsibility during learning and the positive outcome it produces academically as one progresses.

Purpose of the Study

This research investigates the impact of digital education on students' academic performance. It is meant to suggest effective strategies for enhancing digital education in secondary schools.

The purpose of this research is to:

Investigate the benefits of digital education to students' academic performance.

Find out the negative effects of digital education on students' academic performance.

Identify factors affecting digital education among secondary school students.

Suggest appropriate strategies teachers could apply to make digital education effective among students.

Research Questions

This research is guided by the outlined research questions that the researcher seeks to address:

What are the benefits of digital education on students' academic performance?

What are the negative effects of digital education on students' academic performance?

How can the factors affecting digital education among secondary school students be relevant to their performance?

Which appropriate strategies should teachers apply to make digital education effective among students?

Significance of the Study

This study is significant in the following ways:

This study is of great importance to contemporary schools and organizations that are actively involved in digital education among students,

This study helps schools develop a structure that embeds technology and enhances learning into their curriculum as a capacity benchmark and method for developing students' academic performance.

The study contributes to the academia's reflection on the academic performance of students in teaching and learning processes through e-learning and suggests further studies in digital education among students.

This research guides policymakers of education in Nigeria in applying the outcome of digital education recommendations to the planning and transformation of the educational sector.

This study benefits the teachers and technology-based organization with an approach to digital education as these have tremendous effects on students' academic performance.

Scope of the Study

This research concentrates on the impact of technology and how it enhances teaching and learning, and academic performance of students in the selected secondary schools in Idemili North Local Government Area of Anambra State. The study is carried out among two private secondary schools in Awada-Obosi in Idemili North L.G.A; the schools are:

Campus Secondary School Awada-Obosi, and

Royal Foundation Secondary School Awada-Obosi.

Limitation of the Study

The researcher observed the following limitations.

Firstly, the study is limited because the researcher cannot interview many schools; it is limited to two because of proximity. Secondly, there are issues of insecurity in Anambra State, where the study was carried out, which posed another limitation. However, the researcher was able to carry out the research by paying attention to the rules of the land and visiting during school hours, most especially in the morning when the respondents were just entering classes.

Lastly, the researcher observed that the participants were unwilling to participate in the study with their responses; they did not want to be implicated in their responses. However, the researcher assured the participants of their confidentiality and that whatever information they said would be used only for research purposes.

Operational Definition

Digital Education involves using technology, digital tools, and digital platforms like digital games, apps, websites, social media, and learning environments for innovative learning and teaching that is beneficial to both teachers and students.

Academic performance refers to knowledge gained, which is assessed by a teacher by measuring the student's achievement across various academic subjects.

Teaching Aid: this refers to teaching assistance such as digital equipment employed to help the student perform a particular task that improves their learning.

E-learning: this refers to self-determined knowledge obtained by reading and studying through the internet.

Literature Review

Introduction: This chapter is set to study and interact with various authorities in different spheres of life or careers to examine the dimension and construct a measurement of the impact of digital education on the academic performance of students. This research cannot downplay the place and importance of early exposure of students' learning and performance to digital tools and digital platforms like digital games, Trivia games, apps, websites, and social media like Facebook or learning environments like Google Classroom, apps like YouTube for kids applied in the education of students can help students to become self-aware and able to handle culture shocks anywhere around the world.

Development of Digital Identities

Previous studies have shown that digital identity cannot be developed in isolation; there are principles by which identities can be developed, and it will be useful to apply these to users' digital identities. Identity has been popular and in scientific usage. According to Erikson, a Social Scientist, "Sometimes attempt to achieve greater specificity by making such term as identity crisis, self-identity, or sexual identity fit whatever more measurable item they are investigating at a given time." Digital education can help any people group understand their identity when understood or upheld. Relationally, students make psychological advancements in order to keep a good academic company as Erikson puts it, "they try to treat these terms as matters of social roles, personal traits, or conscious self-images, shinning the less manageable and more sinister which often also means the more vital implication of the concept" (Erikson 1968, 16).

However, these studies have not considered that a man's character may be discerned with his mental and moral attitude. According to Kagan and Moss, "In general, the difference among children in specific action profiles-like aggression toward or

dominance with peers, dependency upon parents, sociability or shyness with unfamiliar people, and intellectual accomplishments are preserved from age five or six through adolescence” (Kagan and Moss 1983, 55).

The development of digital identities helps students shape their mode of retention of information, which affects their academic performance in terms of how they visualize and remember things. There is a chronological attachment that, when formed in childhood, follows one into adolescence. So, it is possible to observe a child and see different results as they advance in age because their academic performance is affected as they grow. “The very shy, timid six-year-old is likely to become an adolescent who is tensed and quiet with strangers” (Kagan and Moss 1983). The change may be a result of environmental factors. The environment is an essential factor in the identity formation of an adolescent and the social communication with which their involvement is trained.

Similarly, digital education is done in an environment of its own that brings people of different tribes and races together. In this digital age, where young people pick this intelligence quite at a very young age, depending on the level of exposure they have. Kagan and Moss further noted, “The young organism is remarkably plastic, and much of what is acquired from the social environment is transient and is relevant primarily for the organism’s immediate adaptation.” Their observation shows that preservation of an identity or quality over a shorter period of one to two years often occurs, and that is why the researcher will be observing these students for a certain period of time.

Digital Education and Cognitive Performance Theory

Building on this previous work, the researcher has examined the digital education definition and explained the cognitive performance theory separately in detail, showing that understanding the gap between cognitive performance and digital education is very important for assessing its impact.

Digital Education

Digital education builds in humans the ability to develop cognition so that students can perform well in their studies, with the content of which primary caregivers are made and those who educate students. As noted by Anderson, “... machines are becoming smart with the use of intelligent agents”. He further suggested that “learners should be told the explicit outcomes of the learning so they can set expectations and judge for themselves whether or not they have achieved the outcome of the online lesson” (Anderson 2008, 20). Exposing a focus on the normative range of social experience students early in life to technology can boost their reasoning capacity. As their transition begins, it will reflect on their intelligence quotient. For instance: “British psychologist Charles Spearman (1863–1945) described the concept of “general intelligence” or the “g factor.” By his description, he made a comment that “after using factor analysis to examine mental aptitude tests, People who performed well on one cognitive test tended to perform well on other tests, while those who scored badly on one test tended to score badly on others” (Cherry 2022, 1). The strengths and weaknesses of an effective student in digital education will be measured from the foundational theory of cognitive performance in the next section.

Cognitive Performance Theory

Digital education plays a part in improving the intelligence quotient so that adolescents would be able to build community and performance in their studies. The theory of cognitivism emphasizes the role of mental activities in the learning process, and it includes actions such as thinking, remembering, perceiving, interpreting, reasoning, and problem-solving. Cognitivism is one of three learning theories; whereas behaviorists consider that learning involves responses to stimuli from the environment, cognitivists contend that learning is much more than this. Cognitivism carries the notion that “Learning involves the reorganization of experiences in order to make sense of stimuli from the environment. Sometimes, this sense comes through flashes of insight” (Merriam and Caffarella 1999, 254). This stimulus can be a digital advantage, while the supplementary instructional aid supports learning through digital education and encourages cognitive learning in an inviting way.

Moreover, the brain readjusts when presented with an electronic device and becomes sharper, just switching to a cognitivist view that the learning process is an internal and active mental process that develops within a learner. Exposure to digital education will increase mental capacity and skills in order to learn better. Blanton elaborated on this that the implication of cognitive learning theory on instructional design for digital education should bear in mind that “the instructional goals should include learners’ needs and interest, reflect the concern of society, and make every effort to ensure that goals are focused at least toward the present and hopefully, toward the future needs of the learner” (Blanton 1998, 173). The effectiveness of digital education could be an added value to the instructional goals of learning. Here, there is a projection that digital education is the future of performance in learning, and in this regard, the researcher deemed fit to find out the benefit of digital education on the academic performance of students.

Traditional Modes of Teaching and Digital Education

The traditional teaching method brought to us by the colonial master was rote learning. And that has not properly given us what we call transformational learning of students. The cultural way of learning was much more practical, but the British brought the 3R, which is reading, writing, and arithmetic, as analyzed by Fafunwa, which could only train clerks for employment. When classroom culture is taken into consideration, it becomes clear that teaching is not only about teaching what is conventionally called content. In comparing the traditional mode of learning to digital education, Coles opined that:

The traditional mode of learning places more emphasis on reproduction (rote learning and memory); while digital education places more emphasis on meaning (understanding). The problem of traditional mode of teaching only trained in competent men which may not be creative enough to manage large initiative (Coles 1990, 76).

Coles' submission clearly shows that digital education has more advantages over traditional education. The introduction of digital education to learning will broaden the classroom worldview. Hence, practicing only ideological culture in education is not holistic and progressive, but including technological culture will bring learners closer to digital education.

Balacheff continued to suggest that "The ideal that governed classroom interaction came to parallel the standards for argument in the subject taught community more closely, as truth came to us to be determined by logical argument among scholars" (Balacheff 1987, 147). However, teachers could manipulate them in the traditional mode of teaching, but in digital education, everything could be monitored effectively. In comparing the two further, students cheat in traditional mode and may not be caught, but there is a proper way to discover cheating in mobile learning. The problem of long exposure to the traditional forms of education in the form of rote learning for too long, which could make students' learning rigid, is another challenge.

Barriers to Digital Education

Having explained the problem associated with traditional forms of learning in the previous section, this section discusses barriers to digital education. There are some barriers to digital education, as noted in the Lawn, Zhi, and Morello thus:

The need for increased responsibility and self-discipline to sustain motivation, concerns that those with poor study habits might fall behind, experience learning isolation and lack peer interaction to support learning, lack immediate support from teachers when questions/problem arise within an asynchronous context, and that standardized content could limit the ability for adaptations. It is worth noting that technology is intimidating for those with more limited technical skills, unreliable internet access or platform instability potentially disrupting learning. Additionally, there may be distraction for the learner in the home environment where much e-learning takes place, and there may be significant upfront costs for those developing e-learning content (Lawn, Zhi and Morello 2017, 183).

In addition to the realities mentioned above, Bubou identified four conceptual frameworks as they form major barriers to digital education. These are technological issues, content issues, individual issues and context issues; these barriers are outlined as follows:

Technological issues: There are many technological issues experienced during digital education; one such issue is security problems. Sometimes, one's privacy can be accessed and violated. Even though the information stored in the system is guaranteed, it could be stolen or bridged from getting to you. Earlier work suggests that: "As information technology continues to evolve at its relentless, indeed, ever-accelerating pace, affecting nearly every aspect of our society and our social institution." There is a need to understand the problem it poses as one uses them. "Organizations in every sector are grappling with the need to transform their basic philosophy and process of how they collect, synthesize, manage and control information" (Duderstadt, Atkins and Houwelling 2002, 18). These four points of collecting, synthesizing, managing, and controlling information, if not done effectively and on time, could be attributed to technological issues as unforeseen circumstances arise while digital education occurs.

Content Issues: How and where is content important? It is answered as in digital education and in the students' lives. Studies show: "When it comes to introducing digital technology into teaching and learning, teachers should be made aware that a rapid and indiscriminate move away from paper is not without negative consequences." This consequence could be attributed to a barrier to digital education. "Digital materials could be difficult to access unless there is a carefully designed reading environment with the reader in mind if not it could be a challenge" (Marcus-Quinn, Houngan and McCoy 2019, 775). The problem of students' indiscipline and teachers' personal responsibility to provide effective content when it comes to digital education is given clear attention.

Individual issues: these barriers could be experienced by an individual, such as poor study habits and lack of peer-to-peer engagement and learning. Borotis et al. indicated, "the following issues on individual learners are demotivating to learners and could potentially hinder the acceptance of e-learning by students." They continued to outline more points that "learners feel a sense of isolation, find it difficult to navigate through and within online courses; Instructional learning tasks seem to be confusing" (Borotis, Zaharias and Poulymenakou 2008, 498). Learners' feelings of isolation could be a major barrier to digital education, and this has to do with self-responsibility. Without it, it will be hard to learn without supervision.

Context issues: context might be important in some ways. For example, in Nigeria, there are some places where there is little or no network coverage or they have low-speed internet. As asserted by scholars, "The wide diversity of how e-learning is delivered appears to be at the heart of problems with determining which types of instructional design and formats suit which context" (Cook et al. 2010, 22). Students do not choose their locality, but their parents do. If a student is located in a place where there is no network, it will be difficult for him to identify with digital education. The problem of the negative impact of digital education on the academic performance of students is widely emphasized in these issues. Hence, it could be termed as a weakness of digital education or its ineffectiveness to students' performance.

Concept of Digital Education and Students' Performance

When described in the instrumental sense, Lengersfeld defined digital education as “a process of education that is supported, made possible or shaped by the use of digital information and communication technologies,” and students are attracted to such a craft. Nevertheless, the transition period is filled with temptation, and many of them find it difficult to cross into adulthood without being wounded. Nonetheless, it is a very interesting time to be alive, just as Jersild alluded that:

It is not linked to any precise span of years, student may be viewed as beginning roughly when young people begin to show signs of puberty and continuing until most of them are sexually mature, have reached their maximum growth in height and have approximately reached their full mental growth as measured by intelligence tests (Jersild 1967, 5).

This group is more adaptable at this stage, and they can blend into any mold shape at this stage that is why it would be relevant to observe their performance more comfortably. Tadese, Yeshaneh, and Mulu opined that “Despite excessive government investment in education, most students fail to achieve good academic performance at all levels of education” (Tadese, Yeshaneh and Mulu 2022). Understanding this process will enable students to derive what is attainable in their class performance.

Every student born between the years 2000 and 2010 and above is naturally drawn to digital tools. Students who are exposed to gadgets very early in life are depicted as huge advances, as ascribed by Bradberry that longitudinal studies have shown that “IQ is pretty much fixed at an early age, so you are stuck with what you’ve got”. If this is the case, learning outcomes can be improved if performance is fixed. It is also a reliable factor to state that digital education has a positive advantage for students. In view of these, Livingstone noted similar issues in his work that:

It would be overly pessimistic to conclude that ICT has no benefit for education, for some learn rather than their learning outcome. Nevertheless, it remains difficult to explain why only some learning outcomes are improved for some student using some technologies and, in some subjects (Livingstone 2012, 5).

This implies that if this ratio of performance is not gotten at this stage in the student's learning process, Technology can be applied in all fields of study not directly but indirectly. Hence, it is evident that technology has strength of comprehension on some subjects since some people are open to chances though there is nothing like luck without preparation. Disruption begins when experimentation is accepted, working on trial and error with inference, as noted by Oliveria and de Souza's assertion that:

In the context of education, digital transformation involves rethinking the teaching and learning processes for an audience of digital natives. Considering the practical aspects of the digital transformation, through knowledge and technical skills, and being digital through the incorporation of skill, mindset and digital attitudes (Oliveria and de Souza 2022, 286).

The concept of digital education has been dominating the public discourse directly or indirectly, and it focuses on the media aspect of students' lives. Digital education has turned into a revolution, and most scholars have alluded to it thus:

The digital revolution has transformed the way children and people play, access information, communicate and learn. Pre - schoolers are already familiar with digital devices. Young people today are more connected than ever, using the Internet for gaming, chatting and social networking (Caena and Redecker 2019, 357).

In this contemporary time, digital literacy and competence has been viewed as the outcome of digital education, and students become competent when they have received digital education. Spante et al. opined that:

Digital competence involves the confident and critical use of Information Society Technology (IST) for work, leisure and communication. It is underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet (Spante et al. 2018, 2).

Secondary school libraries equipped with e-learning facilities have a better outcome of competence when the adolescent students are exposed to the tools. There is a level of unawareness that will lead to awareness. There is also an indisputable fact that document is uploaded online every day. Louis Charles Willard noted that:

Immutability is no longer a characteristic of documentations. We may be at a lapping point, and linearity does not provide clear clues. Distance is increasing between users and resources, between learner and educator. As institutions seek to manage this organizational sea change, the appropriate responsibility of the association of theological schools is analysis and seeking consensus on practices that facilitate good digital education in my own word (Willard 2001, 111).

The idea that educational practice cannot be changed may not stand in this ever-changing world. There is a massive move from the physical classroom to online. Virtual or hybrid researchers need to sit down and carve out plans with the view of influencing the academic performance of students in the digital space as their studies progress. This space whereby students interact online through their digital devices is called digital space.

Cognition and Academic Performance of Students

Cognitive development and academic performance are like two sides of a coin that one cannot do without in the education of a student. Through schooling, one develops cognition, while academic is used to measure one's performance cognitively. This is better captured by Peng and Kievit thus:

Academic achievement plays an important role in child development because academic skills, especially in reading and mathematics, affect many outcomes, including educational attainment, performance and income at work, physical and mental health, and longevity (Peng and Kievit 2020).

When a student learns and is measured, the student is termed to have performed either high or low cognitively through his or her academic performance. Performance, when judged, should consider the difference as well as a result of genetic or environmental conditions. Oliver Wilhelm and Randall Engle stated that “Attributing individual differences in the performance of some cognitive task to a specific cognitive mechanism is a different process” (Wilhelm and Engle 2005, 49).

Students enter school with different backgrounds and different learning experiences, and they will finish school with different learning and school results. It is asserted that “assume that the correlation between the two tasks does indeed reflect a common cognitive mechanism” (Cowan 1988, 163). Here are some possibilities in the context of Cowan’s information-processing model:

General processing Speed: Perhaps some individual simply process information faster than others.

A more specific retrieval speed: it is possible that when participants perform the operation, they can maintain the word in activated memory that is outside the focus of attention.

A more specific peripheral speed or response speed: perhaps individuals simply offer the speed at which they encode information in each task.

Knowledge representation in the long-term store: some students might use more efficient strategy than others to memorize the sets of letters.

Capacity of the focus of attention: better performance because more work could be maintained at any one moment on time. (Cowan 1995).

The advancement of technology has made learning easy now. “It is becoming clear that future theories of intelligence will be informed and constrained not only by cognitive mechanism but also by neurological and genetic mechanism” (Wilhelm and Engle 2005, 56). The opportunity for students to perform and have accurate measurements is now because of the availability of digital tools that make the work easy. In recent times, as noted by Alve et al., “School emerges as a privileged context for the psychosocial development of the young people, in particular for their cognitive and learning development. Thus, society and families believe and invest in it” (Alves et al. 2017, 50).

Academic performance is total score derived from a set of standardized lists or subtests designed to access human intelligence. Academic performance can increase or fall based on the exposure of the student. Scores from performance capacity are estimates of Performance. IQ scores are used for education placement. Intelligence is part of the creative ability given to man by God, but it needs to be harnessed through learning. Scholars mentioned that, “digital media define modern childhood, but its cognitive effect is unclear and hotly debated” (Sauce et al. 2022, 1). The researcher will base measurement on the various divisions of academic performance, as this academic performance of students is divided into “three dimensions, namely mastery of academic skill and content, character and high-quality student work.” A student after graduation is judged by her ability to perform well in a basic test on skill and high-quality work, but in this work, this researcher has observed that the academic character, skill, and content as they link to the academic performance of students are of prominent importance. The problem ineffectiveness or effectiveness of digital education on academic performance of students could be resolved with student performance capacity ascertaining before engagement.

Imbimbo et al. further suggested that “We can separate cognitive intelligence into two as collective and individual intelligence” (Imbimbo, Stefanelli and Guazzini 2020, 1). The mode is on an individual intelligence preferred thought as this will be a sample of the group of schools the researcher wants to make a good lead whether using digital technology and learning can improve the intelligence of an average adolescence.

Collective and individual intelligence received much attention from the scientific literature. If individual intelligence; was defined as ability of human beings to solve a wide variety of tasks while collective intelligence was considered as a general factor capable of explaining the group’s performance on wide variety of tasks (Imbimbo, Stefanelli and Guazzini 2020, 4).

There is no exception to intelligence when it is measured individually, and it is good to understand the origin of academic performance among students. Cathy Davidson explained that:

The origin of measuring academic performance in the United States date back to the 1830s... school administer Frederick J. Kelly advanced the idea of standardized testing with the Kansas silent reading test 1914... IBM employee 1934 that could grade test sheets by picking up the electrical current created by pencil marks (Davidson 2011).

The dramatic, pervasive, rapid, and unavoidable impact of technology in libraries presaged a similar impact on digital education generally. So, by dedication, it is believed that in the same way, the need to address the impact of digital education on students and young people may have negative or positive effects.

Critical Thinking

Critical thinking in students develops reflective judgment and helps widen understanding. "Critical thinking is the art of making clear, reasoned judgment based on interpreting, understanding, applying and synthesizing evidence gathered from observation, reading and experimentation" (Burns 2016, 94). Thinking critically requires a range of understanding and cognitive abilities. Some of these are still developing in adolescence and identifying them helps to inform expectations regarding adolescent thinking and provides some guides as to how they may be further developed educationally. The effectiveness of digital education could be found in critical thinking with verse amount of information that needs a certain level of intelligence to decipher.

Skills

A skill is an ability to do something effectively because one has practiced it. There are four skills needed in digital education, and there is room to improve on these skills; these skills are speaking, listening, reading, and writing. They will be enhanced in digital education when given a push. Hymes asserted that "competence is no longer grammatical but also communicative" (Hymes 1974, 4). Skill is needed now more than ever, and according to Van Laar et al., "the skill in this century and digital skills are both seen as crucial [though] the combination is not yet sufficiently defined. This skill helps on how someone thinks, solves problems and learns" (Laar et al. 2017, 577). The researcher agrees with the above assertion because kills are currently being recognized in Nigeria and competitions are held based on the purpose of enhancement of skills.

Character

In addition to critical thinking and skill explained above, character as a performance virtue is required in school for students to be found worthy in character and in learning. Nurlaela Sari stated, "The teaching of moral values is very important to our education" (Sari 2013, 156). In other words, the focus on moral values must be taught in school because it impacts the student's achievement and behavior. As further noted by Sari, "The quality of the early teacher-student relationship can have a strong influence on the academic and social outcome that persists through secondary school" (Sari 2013, 156). One cannot neglect the impact of character education on the after-school life of the student and general well-being. Patrick Kariuki and Linda Williams observed that "whenever school districts discuss whether to implement character education programs, a question arises, should school teach character and values, and are these programs effective?" (Kariuki and William 2006, 3). There is no doubt that character and values are necessary in educating a child, and they may shape students' lives and prepare them for higher learning.

Characteristics of Academic Performance in Students

The concern is to trace the impact of digital education on the academic performance of students; however, there is a need to understand how students perceive performance in their minds, and this also depends on their maturity. Jersild described maturity traits as "set forth in brief, informal statements which reflect the everyday happenings of home as school life continues" (Jersild 1967, 70). Maturity is very important in the exposure of students to digital education with regards to an African parent, who is more or less interested in the performance of students, and if students could have an age of intelligence outburst, there should be a point in their performance if given a good education. For instance, assuming a student is 16 as her actual age and her intelligence age by observation is 6 on the ratio of 1 to 10 therefore the academic performance will indicate a pass mark of approximately 40%. As suggested by Wegari that, "It is a value that can be calculated with the formula of Academic Performance = (performance ability/total score) x 100" (Wegari 2022). Even at puberty, so many reactions happen at this point. It can be a maturity trait, and being able to produce germs cells is a maturity trait. Victor Selman et al. noted that:

Human intelligence is rooted in our genetic code, and the completely evolutionary experience of life on earth: Neurologically, everything that bears on intelligence is routed through, or controlled by, the brain and its neural extensions into the body. One kind of neural organization enables rational, logical rule-bound thinking; And academic performance (Selman et al. 2005, 24).

Academic performance in the context of this work is narrowed to character, critical thinking, and skills. One of the characteristics is psychomotor skill and empathy. The brain guides man's thinking, and it is at this stage of development that a man would say the student has attained an intelligence age where her academic performance can be verifiable, which can be seen first of all in self-responsibility.

Self-Censorship: these are often a result of the "chilling effect." "The chilling effect has, the real long-term negative results in the academy of those vague powers to punish any speech or publication, which in turn renders the academy in effective in the performance of this role in society" (Diekema 2000, 34). Technology can boost the thinking faculty of young people if it is used as medium of learning. Youths or students in high school do not always share what they believe, even if it is true, as observed by teachers. They simply assess the potential cost before speaking out, not because the offer of specific consequences but because of a more general assessment of a "nuisance effect." They count the cost in time, social and peer relationships, and career opportunities. So, when people are talking about helping identify the place of digital education in shaping the academic performance of students, one should include all these areas into consideration.

Digital Literacy and Social Media APPS

Digital education in secondary school should be encouraged, especially after Covid-19. This research drives the measurement of students who are between the ages of 12 and 19 ages as adolescents to know how their exposure to online or internet material

affects their academic performance in their school and extra-curricular activities if used in learning. The aim is for the country to have a holistic education system, not just for the students but also for educators. As noted by Thomas, "Digital education introduces a healthy corrective to exaggerated techno-optimism is techno-pessimism. The thought-provoking edited collection represents one of the first serious attempts to examine how Web 2.0 may improve and help transform education" (Thomas 2011, 11). This software will, in turn, transform young people who are students.

Thus, the researcher cannot underrate the importance of face-to-face meetings. As noted, "Print literacy remains a core literary procedure, not just offline but also online, where a high level of competence in traditional skills is needed, that is, the ability to write eloquently, which you can't effectively do without a high level of intelligence" (Thomas 2011). Written words are as important as words stored online because it is a basis of knowledge creation. Goodness is embraced when there is connectedness; the level of intelligence achieved depends on how passionate one is about that subject matter. An assertion made by O'Gorman et al. about the question asked, "Who are you?" elicits different answers "depending on whether the asker wants to learn how I understand myself or to know my perception of how others defined me" (O'Gorman and et al 2001, 5). When adolescence is digitally informed, it can curb contradictory ideas and mixed feelings about basic life issues.

Digital literacy could then be seen as "the study of written or symbolic representation that is mediated by new technology" (Merchant 2007, 121). Construction of this representation as a literary style for academics is formed from the proper use of digital learning facilities. There are various recommended social media and digital-aided applications for students; some of these are discussed below.

Trivia Game

This application became accessible to Africans, precisely Nigerians, in 2018, and it was dispensed for secondary school students to use "Trivia game as a recognized social game in which teams are asked questions about different topics and they have to get as many correct answers and points as possible" ("Trivia Game" 2013). A trivia game application is a mobile application that allows users to participate in quiz games and test their knowledge in different areas. Generally, educative games play major roles in teaching and learning situations. On trivia games, Hartsock and Lange state that:

In order to promote learning, nurse educators use many principles of teaching and learning. One unique approach used by the researcher to foster students learning was the development and use of trivia games. Students enthusiastically use the games to prepare for classroom and clinical experience (Hartsock and Lange 1987, 24).

The trivia game is a wonderful application that the researcher has used and also encouraged students to do the same as a teacher. It is very important to know that the mind needs to be kept alert, and trivia helps to achieve that, as noted by Elizabeth Knowles: "trivia is information and data that are considered to be of little value" (Knowles 2006, 175).

It can be contrasted with the general knowledge and common sense. For example, one of the applications vividly representing this trivia game was the application called Carrylst App, which rewards students and users for participating in quiz games and so on. It was introduced into Nigeria around 2019. It is one of the games that have a good replica, and it is good for teenagers and students who can now think rationally.

Facebook

Most importantly, an understanding of this particular application and its origin has a lot to do with digital education, Facebook originally was a common web directory found at some American universities consisting of individuals' photographs and names. Today, Facebook and other social media are essential in society. On this, Bartel et al. state that:

Social media has become pivotal in society and organizational life. Therefore, organization must pay closer attention to developments in the social media sphere. The current study shows that active use of Facebook, for example, may enhance employee commitment (Bartel, Vuuren and Ounverkerk 2019, 307).

Facebook has helped simplify communication among secondary school students as it has done for employees.

Alan J. Tabak briefly gives the origin of Facebook thus:

In early, 2004, Mark Zuckerberg, a sophomore at Harvard university, created an unofficial online Facebook at the website the facebook.com, the forerunner of the Facebook service, out of frustration that the university's official online Facebook project was taking too long (Tabak 2004).

From the above, it could be deduced that the Facebook website was created in 2004. The essence of creating this website was for discussion, as noted by David Kirkpatrick. "Facebook group has a wall where members can post thoughts, as well as a discussion forum that allows organized, long-lasting conversations among many members" (Kirkpatrick 2010, 3). Facebook is giving individuals across the world more social power relative to that of social institutions. As asserted by Alan J. Tabak, "By early 2000s, some Facebook were being published online offering a number of new features, including password protection, more detailed information, more advanced indexing and searching, and the ability for people to upload and enter information and photograph" (Tabak 2004). This was metamorphosed into what is known today as social media. In recent times, the definition has been updated to mean that Facebook is an online social media networking service.

YouTube

Another popular social media is YouTube. Wong notes that “Facebook’s reign continues into 2023, but it doesn’t stand alone. YouTube is not on its heels, clocking in with 2.5 million monthly active users” (Wong 2023). Continuous learning is essential for students to stay ahead in their field of interest, and YouTube is an app that can help them achieve that. Online learning platforms like Udemy, Coursera, and LinkedIn learning offer a vast range of courses on various subjects. As noted by Akinkwe, “In today’s digital age, utilizing the right technology and productivity tools is crucial for any level of learners” (Akinkwe 2023).

It must be noted that from the beginning, YouTube was not meant for young people. Demographically, as noted by Wong that, “YouTube is an American online video sharing and social media platform headquartered in San Bruno, California, United States: Accessible Worldwide” (Wong 2023). YouTube is good for students to learn and expand their understanding of different subject matter.

As ascribed by Goodrow, “YouTube was launched on February 14, 2005, by Steve Chen, Chad Hurley, and Jawed Karim. It is owned by Google and is the second most visited after Google search” (Goodrow 2019). There were issues ranging from child safety and privacy when young people were first seen on the platform. All this became full-blown, and leading into 2017, Luscombe asserted that “there was a significant increase in the number of videos related to children coupled between the popularity of parent vlogging their family activities” (Luscombe 2019). This awareness that students can be brought into using the tool was first conceived as an offense. As alluded to by Alexander, that “creator really started gravitating toward kid-oriented content about two years ago” (Alexander 2019). Content creators are moving away from content that often was criticized or demonetized into family-friendly material. Alexander further noted that “In 2012, YouTube reported that time watch family vloggers have increased by 90%” (Alexander 2019).

Later that year, according to Maheshwan that:

YouTube can under criticism from showing inappropriate video targeted at children and often featuring popular character in violent, sexual or otherwise disturbing situation many of which appeared on YouTube kids and as of that time there was significant improvement (Maheshwan 2017).

This has attracted millions of viewers. During this period, the importance of giving the young people the opportunity to participate in the platform learning begins to gain ground. Tufekci opines that “young people turn to YouTube for information. Google cheap and sturdy Chromebook laptops, which now make up more than 50 percent of the pre-college laptop education market in the United States, typically come loaded with ready access to YouTube” (Tufekci 2018, 4-5).

Google Search

Google search is another one of the most visited places online and students always make use of it. This work will not be complete if the Google search engine is not imbibed into the work as one of the suggested places students can visit to boost their academic performance. As noted by John Battelle “when Google was founded in September 1998, it was serving ten thousand search queries per day” (Battelle 2005). This is just a start, as Battelle continued to allude that “in September 1999, one year after being launched, Google has already started answering 3.5 million search queries daily” (Battelle 2005). Google search is one of the commonest places online where students can visit to solve their queries and get answers. According to Sullivan,

In august 2012, Amit Singhal, senior vice president of Google, and responsible for the development of Google search, disclosed that Google’s search engine found more than 30 billion sites a day, and processes 100 billion searches every month (Sullivan 2012).

Google search has risen to be one of the most sorted out websites online that helps students’ performance when being aided by the search engine to do their assignment. According to Google search statistics, “Google search is a search engine provided and operated by Google handling more than 3.5 billion searches a day” (“Google Search Statistics,” 2015). Google search is in 149 languages, and its first prototype was launched in 1995. As noted by search engine market share worldwide that “It has a 92% share of the global search engine market. And it is the most visited website in the world” (“Search Engine Market Share Worldwide” 2020).

Benefits of Digital Education System to Student

Digital education has an environment that enhances logistics in study. “Education is a valuable aspect of society, as a benefit digital classroom helps all work resources to be conserved and assignment well recorded and none will be missing” (Dhiman, Bharti and Gaur 2023). The society is expanding, and digital education is part of that expansion. By assertion, Hromada suggested that “digital education is a two-word noun phrase wherein the substantive education is précised by means of an attributive adjective digital” (Hromada 2019, 3). That kind of performance makes a student subconsciously understand before it is taught. Maybe the environment triggered the Inquisition. This submits to the objective of this research talking about the benefit of digital education on students’ intelligence quotient. Digital learning is learning facilitated by technology with a unique performance boost that offers students some factors of command over the place, time, space, and path. The benefits of digital education system, according to School Net learning include:

Personalized learning: the opportunity to assist student in learning at the best path and pace for them is the most vital advantage of digital education systemic.

Makes student smarter: student can now reason outside the box without leaving their country.

Make student self-motivated: student can work because of skill to employ is also entertaining.

Expanded learning opportunities: this helps student to able to distinguish what is real and what is not.

Develop accountability in student: this allow student to have control over their education by creating an environment where student is accountable.

Encourages the development of new digital learning strategies: Students learn how to use and adopt new technology as well as being able to teach themselves new skills.

It helps in work preparation: its student to be more prepared for their work life.

It helps in building peer group: digital education can be used to build stronger relationship between students and teachers.

It facilitates collaboration: student can learn and collaborate in shared environment.

It facilitates student progress tracking, which makes digital education a good yardstick for measuring student performance and progress in schools ("The Top 10 Benefits of Digital Learning" 2022).

These benefits are the strength one can employ while using digital education for learning. These benefits challenge student performance. Livingstone noted some challenges in his work that:

It would be overly pessimistic to conclude that ICT has no benefit for education, for some learn rather than their learning outcome. Nevertheless, it remains difficult to explain why only some learning outcomes are improved for some student using some technologies and, in some subjects (Livingstone 2012, 5).

This implies that many students are impacted by digital education while some are not based on their choice of what is presented to them as value.

In other words, students could miss whenever digital education is missing in their learning curriculum. It is important to note that this is just a little compared to how much of an advantage one can get from engaging in digital education. Omirin states "The research question sought to know the extent of the effective use of digital education to upgrade learning in students" (Omirin 2017, 109). Just as the computer can be used for processing results, it can also be used for guiding and discouraging students' misconduct. In comparing the two methods of learning, it is noted that "when this process is forced manually this could led to stressful condition and so many student documents are lost through the traditional manual record keeping and offices that would have served for other official use are converted to document strong center unit or office."

If the computer is a relief to the manual, it should be able to work out a rationale for maintaining student behavior using digital education. Curtailing plagiarism within the academia is one step in that direction in curtailing plagiarism among the academia Awopetu et al. suggested that:

Emerging research bodies populate in developing state of the world. Finance is a major hurdle; therefore, getting institutional license to access the premium service of Anti-Plagiarism Corporation is a challenge. Like other emerging technologies, however constant research and development will make providers go mainstream with the advent of alternatives (Awopetu et al. 2017, 121).

This shows that with the advent of digital education, people will be informed about right and makes people to understand importance of being original as the tools will help reduce plagiarism and make people aware of its existence.

African Writers Viewpoints on Digital Education

The Information Age Over the last decade, the world has given birth to a new period in history, which most authors correctly call the digital age. As opined by Ifinedo that "the forces that the developments in Information and Communication Technologies (ICTs) have released, can be compared with a global tidal wave which is sweeping over the world" (Ifinedo 2005, 1). Many African scholars and writers are aware of this concept and have been making their contributions in preparation for its actual usage in Africa. Various studies have been done on the implementation of ICT in Africa; one cannot downplay the part Africa is playing in shaping the digital age. Just like Philip Emeagwali, a Nigerian computer scientist who becomes a technologist during a time when Africa has not smelled of digital explosion. However, as suggested by Mahao that "with digital media and devices, an opportunity presents itself for changes to occur in how teachers handle knowledge transfer" (Mahao, 2019, 10).

The negative effects of digital education may be due to a lack of technological skills and difficulty in accessing instruction. In traditional teaching, where learning is usually through lectures and note-taking and is largely teacher-controlled, discussions and learner-centeredness are emphasized. Teaching and learning of the generation have the speed on which it runs because of digital education. The kind of curriculum that Africa was exposed to only built clerks, but digital education gives someone an opportunity to re-learn and engage in self-learning at the same time. As opined by Mahao that "the modern approach agrees more with the use of technology where learners (with the guidance of the teacher) take some control over their learning" (Mahao 2019).

Supervision is very vital for effective student performance; technology cannot be well understood without being guided. Most schools in Africa do not have an active policy and plan to implement digital education. However, digital inclusion is needed where supervision should be the procedure for application; that is why bringing it into the school system is very important. As alluded by Tandi, Mawere, and Mukwazhi, “the immersion of technologies in education institutions is important for e-learning or online learning as well as the use of other electronic aids to step down learning” (Tandi, Mawere, and Mukwazhi 2023, 9). The teaching aid in the scheme of instruction should be converted to digital tools aid to learning because the aids are old-fashioned and should use digital tools as the new normal.

Digital technologies are gaining more and more importance in higher education in Africa, and the perspective used in illustrating this new move is what is called educational technology (EdTech), with many young adults in Africa launching into the business of digital education. Consequently, from the start, trying to move this e-learning enterprise to both primary and secondary curricula have made its application a difficult issue, but now many young people learning this computing skill that will enable implementation of this in school is becoming numerous. As ascribed my Tandi, Mawere and Mukwazhi that

“School and colleges have been bombarded with technological tools such as the internet, information communication technology (ICT). Electronic resources: digital technologies and interactive games. This has changed the face of learning in various societies across the world including Africa”(Tandi, Mawere and Mukwazhi 2023, 8).

However, creating a platform for effective implementation and integration of digital education throughout the curricula by students and teachers is important: bringing in needed hands-on experience to handle its introduction in schools for students and teachers.

Interactive games cannot be effective if no one directs the student on how to make it learning-based and problem-solving focused. Digital education has revolutionized the learning process, and in the same way, it has transformed all aspects of human endeavor in our world today. As opined by Anderson, Redder, and Simon “The context in which learning takes place can therefore not be isolated from the actions of learners. Instruction cannot be divorced from the social environment in which it occurs” (Anderson, Redder and Simon 1996, 8): If digital education should be impactful there should be a context in which it happens, breaking the context is cutting the process. However, it is evident that building a digital culture around a context is obvious.

The context here refers to innovative hubs or technology hubs introduced in schools, and knowing the ages needed in secondary education is from 12 years to 24 years. It is important that students’ individual skills are developed before they reach a young age; mobile device ownership has increased in Africa. Whether there is a computer in school or not, students are exposed to mobile screen time in their homes. This could help the instructors create and understand the context in which they live and how to manage it effectively for teaching and learning to take place. Also, local context plays a part in how digital literacy takes place. As asserted by Ertmer and Newby that “Learning should not be decontextualized otherwise knowledge transfer will not take place” (Ertmer and Newby 2013, 55). Therefore, this indicates that learning is very much part of the context in which it happens, and adapting digital education in the context of learning illustrates a good reason that will make them part of the teaching and learning environment.

The local culture and technological resources of Africa must be engrafted into the learning portal of digital education for it to be meaningful to an African learner. Many African countries is expanding their digital base, just as Chisholm opined that “South Africa has 187 649 domains, and 3002 websites and other countries are flowing suit” (Chisholm 2004). Nigeria, Cameroon, Kenya, Tanzania, Uganda, Ghana, Egypt, Tunisia, Angola, and Ethiopia have followed suit in having their own cloud online, and the monetization barrier from another continent that has limited Africa in the past is being broken gradually. These are proof that African are no more left behind in aspect of technology and if digital media and devices are available in our context and have shown potential to be of great benefit in teaching, these should be a New Testament that its adaption will harmonize learning in Africa.

Lifelong learning and context meet when in contact with digital education. Data collections are important in a native lifelong learning context, and expectations are on those grounds that make learning re-designable using technology. Instead of a formal setting that uses pedagogical instruction that is detailed and rigid. The digital education environment becomes a context in which lifelong learning is promoted. Kajee and Balfour asserted that:

Lifelong learning has become associated with participation in the digital age, affecting everything from access to information technology, to its use in teaching and learning; It is therefore inevitable that educationists turn to digital literacy practices to examine their contribution to, and influence on, learning (Kajee and Balfour 2011).

Knowledge creation has deepened with digital education and lifelong learning made it possible for people to re-learn when their learning is faulty. From the advent of technology and the massive use of digital gadgets, lifelong learning has become self-directed in a way that is innovative and flexible. It is possible to utilize online resources, tutorials, and courses, which, naturally, one would have paid heavily to take, has been made available to everyone through information technology. Andema suggested that in “understanding how people use ICT in local contexts provides insight into how ICT impacts people’s everyday lives” (Andema 2014).

Hence, creating an organized stun that makes a detailed contribution to how one adapts to challenges has revolutionized learning, in using information communication technology, people are able to learn with another continent on the same matter that is

globally applicable; however, the need for proper transfer of skills, continuous skill development and up-skilling for already professional teacher is needed for its implementation to be effective. As opined by Zlotnikova and Lubega that:

The lack of emphasis on teacher professional development in ICT in Uganda is further exemplified by the fact that while ICT has been integrated in the secondary school curriculum, it has not been firmly integrated in the teacher education curriculum in the country. Worse still, applying ICT in education has not even been extensively considered during curriculum development for Bachelor of Education courses in Uganda (Zlotnikova and Lubega 2009).

These are governmental and policy challenges that needs to be attended to for digital education to be effective. A competent framework is needed in curriculum and assessment, and those making policy should merge with the vision of the future. Understanding that Africa is in a state where other continents were before they became a developed country. It can thus be argued that not having ICT infrastructure in schools and colleges may not necessarily mean that people are digitally illiterate because they might have other forms of digital tools like mobile telephones, DVDs, digital camera and recorders in their homes and communities, which if interrogated can inform how ICT initiatives can best be configured.

Zlotnikova and Lubega further posit that “Ugandan high education institutions do not currently have pedagogical capacity and experience to train teachers in ICT; thus, a consistent educational strategy taking into consideration local Ugandan conditions has to be developed” (Zlotnikova and Lubega 2009). The same suggestion can be applied in another African country to achieve continental awareness. This awareness should teach teachers how to align pedagogical knowledge with digital education. Making methods and processes of teaching that are not just only for physical classrooms but also incorporating online classrooms. This can only be achieved through a better understanding of the ongoing ICT training programs in teachers’ colleges through careful interrogation of the ICT projects in the field.

These projects should consider learners’ justifiable stand and what should be the appropriate point of view for each subject content online. Zlotnikova and Lubega are of the opinion that “since there is great advocacy for the use of technology for teaching and learning, there is a need for proper training on how to use technology effectively by teachers; before this can be done” (Zlotnikova and Lubega 2009). If teaching and learning will be carried through digital education; with the main content used being online focused. Therefore, there is a need for teachers to upskill themselves in the knowledge of information and communication technology. Nevertheless, Research is now further enhanced by more sophisticated online datasets and repositories of visual and audio material, for example, the European database. The hope is that, as opined by Harl that “with limited physical collections but better online connectivity”.

African researchers would be able to do the same, and the possibility is visible. However, these varieties of interest mean that there is frequent duplication of efforts that is, either between limited physical collection or online connectivity. One would discover scholars in Africa have the challenge of uploading their works online either because of the cost or mindset of old school printing of material which may be physically not seen online. There is a wasteful lack of coordination in the activities that take place across Africa. Nevertheless, networking is becoming easy between researchers from different continents. However, as suggested by Harl that “the extent to which the digital shift is changing research opportunities on the continent is overwhelming” (Harl 2004). It has become increasingly seen that countries all over the world are making changes from agriculturally based economies and industrially based economies to technological-based economies; these are the effects of the digital shift.

Subsequently, digital education is seen in East and Southern Africa, and experiences are suggesting the obstacles to research across sub-Saharan Africa, of which the use of digital resources has a partial answer to these obstacles. With these, one can acknowledge the significant educational gap in some African countries, knowing the application would not occur on the same level. As asserted by Barakabitze et al. that

African countries continue to adopt ICT policies to underpin growth in a variety of socioeconomic sectors (e.g., education) and help steer development and competition. Indeed, there are new ICT project developments and announcements of initiatives related to ICT for education (ICT4E) on an almost daily basis somewhere on the continent (Barakabitze et al. 2019, 2).

However, Africa is bracing for the chance to evolve through technology. And these breakthroughs are creating convenience. A blended approach and consistent preserves and in-service training are seen as solutions to help teachers. Hence, making use of partners or stakeholders to promote information and communication technology for educators According to Msila that “Since the advent of digital technologies, two phrases have been used extensively in higher education institutions and these are digital transformation and digital leadership” (Msila 2022). The integration of digital technology into all areas of an educational business requires a cultural shift that requires the school to be more agile, innovative, and student centric. Just as leading digitally connotes guiding and influencing individuals, teams, and schools in the digital age, digital education enhanced personalized learning, bringing these two concepts into the culture around its use. An educational institution at all levels that understands the impact of digital transformation and digital leadership in teaching and learning would lead the way to make digital education a practicable model in schools today. Just as Msila suggested that “The digital culture was found to be a culture for the future. The participants maintained that no institution could contemplate a future strategy without considering the digital cultures’ role in supporting that future” (Msila 2022, 1114). Digital culture has a vital role in the future of digital education. Just as it encourages experimentation and creativity, it also facilitates collaboration and, knowledge sharing and embracing emerging technology. Yet some felt that the digital culture sometimes becomes a barrier, especially for black students who mainly come from disadvantaged

historically black schools. However, digital education has the capacity to reconnect the dots. And bridge that lost connectivity. Digital education would help to enhance connectivity in bridging the geographical and cultural divide.

Gap in the Literature

However, these studies have not considered enhanced learning or gone deep into artificial intelligence; the gap noticed in this study is on the aspect of reconciliation one has to do as regards to Cole's suggestion that, "Traditional mode of learning places more emphasis on reproduction (rote learning and memory); while digital education places more emphasis on meaning (understanding)." The investigation was carried out, and there was no perfect integration when merging digital education with traditional modes of learning. "The problem of the traditional mode of teaching only trained competent men who may not be creative enough to manage large initiative." These could have a good integration when brought together with digital education. Despite extensive research on digital education, little attention has been paid to the instrument required by both stakeholders to be able to house traditional modes of education and digital education in one house. This could be positive if the gap is effectively bridged.

Consequently, a dearth of studies on the impact of digital education on the academic performance of students is identified, and this research seeks to fill this observed gap in the literature by examining the impact of digital education on the academic performance of students with a focus on the secondary schools in Idemili North Local Government Area of Anambra State, Nigeria. The gap noted in this literature is that many scholars have commented on the subject of digital education, but it is a new phenomenon to Nigerian students and a good part to be explored.

Summary of Literature Review

In summary, the reviewed literature is based on the interaction with scholarly articles and empirical studies done in various secondary school contexts to determine the impact of digital education and its effects on the academic performance of students. Scholars attributed that Digital education has an environment that enhances logistics in the study.

There is other aspect needed, like physiological and behavioral impact that needs to be investigated to determine how it impact students' performance in tertiary institutions.

The chapter reviewed the literature on the impact of digital education on the academic performance of students and traced the elements, factors, effects, and solutions to the problem of ineffectiveness and effectiveness in digital education. There are various theories of learning; however, the learning theory that was adopted for this research embraced cognitivism as the right learning theory to measure the academic performance of students while using digital education. When academic performance is above average and when right perspective is gotten, Students will not be diverted negatively while using the digital facilities.

The chapter reviewed the benefits, actions, barriers, and the impact of digital education on the academic performance of students. Furthermore, it is good to understand that there are benefits of digital education and that the students having good maturity traits will send a strong signal in their academic performance, proving that their learning can be tested and will come out with good results. From the review of available sources, the research seems to show that many studies have been carried out on digital education. However, there is no known study that has been done on digital education among secondary school students especially in Anambra State.

Research Methodology

Introduction

This chapter explains the methodology employed for data collection needed to carry out the study. The researcher employed a qualitative descriptive research approach with the purpose of investigating the impact of digital education on the academic performance of students in secondary schools. The chapter comprises the following: research design, research population, sampling technique, data collection procedure, method of data analysis pilot testing, validity of the instrument, and ethical consideration.

Research Design

The design used in this study is a case study design. A case study is a form of qualitative descriptive research that works intensely on an individual or small participant pool, drawing conclusions only about that participant or group and only in that specific context. This study is a case study because it is centered on a small group of people to understand the impact of digital education on the academic performance of students in secondary schools.

This approach examines stakeholders' role in handling the impact of digital education on the academic performance of students in secondary schools. The researcher used the case study as an approach in this study because the subjects under study are uniquely tender and need to be given attention as the growth in usage of digital education increases among secondary school students. Using this design, the researcher explored the case's key characteristics, meanings, and implications.

Research Population

The population target consisted of selected secondary schools in Idemili North Local Government Area of Anambra State. The secondary schools are located in Onitsha and Awada-Obosi metropolis where the study was conducted. The target population consisted of all principals, teachers and students of the selected schools. The selected schools are:

Campus Secondary School Awada-Obosi. (C.S.S.A)

Royal Foundation Secondary School Awada-Obosi (R.F.S.S).

Table 1: Showing the Total Research Population

Sampling Technique

The sampling approach used in this study is stratified sampling. This involves dividing the population into homogeneous subgroups and then taking a simple random sample in each group. This sampling was chosen because the researcher targeted

Schools	Principal	T	Student	Total
C.S.S. A	1	4	10	15
R.F.S.S.	1	4	10	15

secondary school students and intended to involve the teachers because of the subject. Secondary students are expected to be reliable in their studies since they are grown up enough to tell their experiences. Further, stratified sampling helped to divide the total population into smaller groups or strata to complete the sampling process. These were formed based on the characteristics of the population. The three strata that were sampled were the students, principals, and teachers at the selected schools who understand the impact of digital education on students' performance.

Those schools were chosen firstly because of their proximity and accessibility to the researcher. Secondly, they are among the popular schools in the area as far as academic and moral standard is concerned.

Research Instrument: The instrument that was used for the study is a written interview, which was used to enable the student to be able to articulate their points. Also, an oral interview was used to support the written interview. Direct interviewing of the participant to further receive viable information on the subject under investigation. This helped the respondents to express themselves freely in writing. The interview questions were developed in line with the purpose of the study and the statement of the problem connecting with the research questions. It consists of three sections: Section A sought after personal information of the respondents. Section B is made up of four questions, all divided into two major parts. Section C contains performance ability tests for students. These items or questions were designed in a way that helped in the collection of facts that addressed the purpose of this research. It must be stressed there that Section C was designed only for students in order to test their performance ability in digital education. This helped to validate any information obtained from Section B.

Data Collection Procedure

Through the help of two other persons who were picked from the different schools who served as research assistants, a total of 30 respondents participated in the interview, and it was distributed among the two secondary schools. To avoid the high insecurity risk, the researcher visited the schools during school hours to carry out the written interview on respondents. This is because meeting outside the stipulated school hours could be risky as security patrolling around always leaves once the students leave

.Method of Data Analysis

After the data had been collected, they were presented and analyzed in line with the study's specific objectives manually. Data was categorized, summarized, and discussed in detail. Being a qualitative study, the data collected was descriptively analyzed.

Pilots Testing

Pilot testing was used to justify the credibility of research instrument. The interview question guide was tested among one teacher and two students at the Salvation Army Officers Training College to clarify and test the instrument. Through the pilot testing, some questions that were repeated and conveyed the same meaning were detected and were corrected.

Validity of the Instrument

The research instrument was validated through face validity; face validity was used to identify areas in the interview guide that needed improvement in terms of sentence construction, repetition and the organization of items in the interview for easy identification and response.

Ethical Consideration

Ethics were maintained throughout the research conduct. The researcher received a letter of introduction from the graduate school at West Africa Theological Seminary, which was submitted to the principals of the two schools under study. Upon the approval to

conduct the research, the researcher administered the instrument to the principals, teachers and students at the selected schools under study. The researcher assured the respondents of confidentiality as stated in the consent form. Therefore, individual names were not mentioned in this study, but the respondents were given number 1-30 and were identified by their numbers. Hence, the data collected was not falsified. It was based on what the respondents supplied.

Data Presentation and Analysis

Introduction

This chapter focuses on the interpretation and analysis of information obtained from field research, collected through research instruments and written interviews. The analysis contains the respondents' perspectives on the impact of digital education on academic performance of students in the selected secondary schools and their responses were analyzed in line with the study's purpose with the following specific objectives:

Demographical Background of the Respondents

To investigate the benefits of digital education to students' academic performance.

To find out the negative effects of digital education on students' academic performance.

Demographical Background of the Respondents

To identify factors affecting digital education among secondary school students.

To suggest appropriate strategies teachers could apply to make digital education effective among students.

Table 2: Personal Data of Respondents

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	13	43%
	Female	17	57%
Age Group	10–19	20	67%
	20–29	1	3%
	30–39	5	16%
	40–49	2	7%
	50–60	2	7%
Marital Status	Single	20	67%
	Married	10	33%
	Divorced	0	0%
Educational Status	Secondary School	20	66%
	Diploma	2	7%
	BA/BSc	8	27%
	MA/MSc	0	0%
	PhD	0	0%

Data Presentation and Analysis of Information

Benefits of Digital Education to Student Academic Performance in Selected Schools

To achieve the first objective of this study, to investigate the benefit of digital Education to student academic performance in the selected school, the respondents were asked. What do you think are the benefits of digital education on the academic performance of students in your school? In response, the respondents indicated that their secondary schools have benefited from digital education. One principal of the two selected secondary schools, both in interaction and in written documents, strongly affirmed that digital education has impacted her students, though their digital tools are few, and that makes it impossible for the student to actually have a first-hand taste of the practical's while the teaching is going on. While the second school principal stated that digital education has helped the students to study beyond classroom learning. It has also helped them to study ahead of their teachers.

Such benefits include easy access to information, enhances teaching, joins as aid to teaching and enable accessibility of online resources, enhances collaboration, helps in student accountability, give access to great educational site, help to create personalized learning, and it makes learning more focused and aids better understanding.

One of the respondents mentioned that:

The benefit of Digital Education on student academic performance in her schools has helped in the improvement of some students' marks and grades. It has really assisted the students in bringing out the best in them, in other words, they have been exposed to diverse academic knowledge, which is believed will help them in the future (Respondent 16)

The respondent above authenticates carefully the importance of digital education integration among secondary school's students. It helps them become the better version of themselves. A student added that "digital education has done and is doing better than harm in academic performance of student things students can't learn directly from their teachers are learnt digitally" (Respondent 17). Wise students, without being told, take advantage of digital education to enhance them. Moreover, one teacher, building from the discussion of the benefits of digital education, stated that "There is no secondary school where digital education is thrown at the trash if the school wants to go far. Digital education makes students be more engaged in academics and helps them to retain information" (Respondent 29).

The impact of digital education cannot be over-emphasized because it is integrated into everything done in today's world, starting from the Led Televisions, Android Phone, and Work Aid Tools. Livingstone noted in his work that:

It would be overly pessimistic to conclude that ICT has no benefit for education, for some learn rather than their learning outcome. Nevertheless, it remains difficult to explain why only some learning outcomes are improved for some student using some technologies and, in some subjects (Livingstone 2012, 5).

That portrays involving students in digital education has been somewhat of a help to student academic performance, though not in all circumstances. Unless there is an adequate ground on which enhanced learning thrives, it may not be applied. Some students also confirmed the benefits of digital education in school. For instance, one of the students who participated in the study affirmed that digital education has made him to be a useful instrument in the media department of their church. He suggested that "easy access to information is made possible by digital education and acquiring of more knowledge and skills, which also makes the ability to be creative and innovative easy" (Respondent 3).

Though it has capacity to build and add to one's vulnerability, caution must be taken at the elementary level before digital education usage; nevertheless, its usage also simplifies learning when used effectively. Digital education brings a whole lot of connection with the subject of study. These impacts are felt when one participates in e-learning. Another respondent added, "Digital education brought verse inspiration, especially in the lives of the junior students. It has modernized the lives of students of this generation. It has also helped students in terms of being creative" (Respondents 2).

Whenever digital tools are used for learning, it makes work easy and helps the student comprehension turn out on a better note. The mention of these benefits shows that examples are needed in each subject a student takes, which gives the student an idea of the course that this is doable and achievable. This again confirms that digital education has benefited student academic performance with the use of research, which has made studying and assignments easier. A student suggested she thinks that "digital education has encouraged some students in some schools, in a situation whereby some teachers are not capable of teaching, he or she can through online learning acquire knowledge" (Respondents 8),

The wiring of this generation cannot be put aside as digital education impact on everyone because it is what makes this generation unique. Because of the fast and rapid move of technology in this time, both in artificial intelligence, web three, and the Internet of Things. Another student reported that "yes, the benefit is that it can make a student to be versatile in digital knowledge, just as the world is now in a computer age, one who does not have digital education might fall off from the flow" (Respondent 5).

The view of this respondent points to the lapse in digital education covers, which could have amounted to what is called half-baked education. On the other hand, one of the respondents representing those who indicated 'yes' wrote that "digital education simply analyses or rather explains more on a given quest, and he strongly suggests the use in school" (Respondent 25). A new student in school is more drawn to a school that has digital tools for learning, which makes them more receptive to learning. One remarked that "there is nothing like digital education noticed in our school. But we have our phones, and we use them for assignments. Digital education provides added information needed for a particular project topic or assignment. it also gives an elaborate or broad knowledge" (Respondent 15).

By and large, the majority of the respondents have indicated the existence of benefit in digital education and also agreed that it affects performance. The number of respondents who affirm the existence of benefits in digital education reveals that this kind of education should be brought to every secondary school because it is very important if you want to win in the competition in the labor market of today. This is an issue of concern, and education stakeholders must rise to have a working curriculum that accommodates this kind of education in the educational system not only theoretically but also practically.

Still on the benefits of digital education, it was found that it helps students in critical thinking. One the respondents asserted that "Digital education holds so many values in society, leading to a new way of communication. It helps student to analyze how

things can be carried out digitally with their society in view. It also inculcates the value of calmness when handling digital equipment, in order to interpret written facts” (Respondent 17). The compass that helps us to navigate this river of critical thinking is digital education. Another respondent stated that “it helps them to think far and wide more than they can imagine. Students should learn how to access or operate Google and another search engine” (Respondent 2).

Integrities and values are built in through critical thinking. As a respondent noted that, “Digital education helps students in critical thinking by exposure to different ideas and opinions or views to matters relating to education” (Respondent 1). One of the male respondents noted, “As of now, due to the development of artificial intelligence (AI), students have been relieved themselves of such critical thinking in a way that a difficult arithmetic can be simply answered and summarized under split seconds by an AI” (Respondent 25). Student thinking runs wide while in class; therefore, digital education will help them topicalize their thinking. Another respondent replied that “Digital education helps the student to think fast. Digital education helps students to answer questions accurately and correctly without waiting or hoping for guidance from anybody. Students bring out faster the idea they need especially in research which facilitates critical thinking” (Respondent 7). Another respondent noted that “the result has revealed that social influence, accessibility, computer self-efficacy on digital learning has enhanced critical thinking” (Respondent 11). One of the respondents alluded that: “Digital education really comes in handy when a teacher laid a tough question so with the help of digital devices like android phones or computer student can get to study the question through the help of a search engine google or AI (artificial intelligence)” (Respondent 20).

As noted by the respondents, this is the arduous aspect of digital education; nevertheless, this aspect of digital education makes students more advanced in this dynamic world. It gives them room for versatility in learning, making one not think from a narrowed perspective but a balanced approach.

Negative Effects of Digital Education on Student Academic Performance

In order to achieve the second purpose of the study, the respondents all stressed that the negative impact of digital education on student academic performance is distraction. It causes students to engage in cyber fraud, an immature lifestyle, and watching pornography; some suffer from mental and cognitive disorders if not guided well; Students copy and paste assignments from Google without even reading them and the student then find it difficult to do assignments manually.

These issues continue to come when every student uses the digital space. However, the case may be these could curb also when the student has been well informed on how to use the tools, and anyone who chooses to do the other way round does so because he or she is indisciplined. However, Reports by respondents have also indicated that: “Technology gadgets distract students’ attention; some students see it as an avenue for cheating, thereby killing creativity” (Respondent 15).

Students who lack morals will find it difficult to cope with the freedom that comes with using the digital space. Knowing full well that there are many opportunities for misconduct. This was stressed with a Yes by another respondent stating that “apparently students copy fake lifestyles of influencers online and exhibit them in school. More so, they now find it difficult to manually carry out their assignment” (Respondent 17). The issue of laziness is heightened with the use of digital space. And one meant to be tempted to look for the short cut because of distraction. Another respondent suggested that “there are effects that she has noticed that when a student is being given an assignment to make research of something, he or she can go on doing something else like watching films, playing games and so on” (Respondent 8).

They suggested that watching films and games has been a distraction impacting students negatively and that the impact of digital education on them becomes very low. Uncertainty has contributed to the negative impact of digital education because, without proper supervision of students, they may not concentrate online because of so many distractions. On the other hand, some students are properly trained from home on how to defend themselves while using online e-learning facilities and know the proper use but this discipline should also be inculcated in schools. As noted by one of the respondents that “she desires to know how to protect herself online so that boys will not disturb her because she has seen that it is the easiest way they get to her” (Respondent 19). This calls for the need to properly train students and impact them with the necessary skills needed to make good use of these new learning environments.

A respondent suggested that “there is always a saying that goes like this: anything that has an advantage also has a disadvantage.” There has been a negative impact in some of the students, but if they are well guided by the teachers and are taught about the consequences of the negative impact, she believes that “there will be a turnaround in that aspect nevertheless, the positive impact outshined the negative impact in my school so digital education should be encouraged for a better future” (Respondents 20).

On the other hand, a respondent was not in the affirmative. He was of the opinion that “there is no negative impact of digital education in our school students that affects their academic performance” (Respondent 24).

Still, on the negative, some respondents posited that “social media, watching crime-related films and videos, aids in societal decay and are responsible for immoral practices. Though, the motifs behind them sometime are wrong because they pay less attention to their academic work” (Respondent 26).

The warning here is that as Digital education has a positive impact on this generation, but it also has a negative effect on young people. Both students and non-students now use the knowledge of digital education to venture into several negative activities such as what is known as Yahoo Plus, falsifying your identity to extort from people and so on (Respondent 27).

Again, according to the confession of one of the students: “Digital education strongly has a negative impact on the students who mostly spend time on their device and not studying but gaming, watching the pornographic scenes and also chatting with the opposite sex on an unimportant topic” (Respondent 17). This negative impact spreads more than the positive impact; low-income families need to also participate in this development so that they will not influence those who own the gadget and be responsible first to themselves. Primary reasons also can be ascribed to lack of adequate guidance, fear of uncertainty, loneliness, and so much more as contributing factors to be negatively affected. If this negative is not tackled, it will continue to spread.

Factors Affecting Digital Education among Secondary School Students

The third purpose of the study is ‘to identify factors affecting digital education among secondary school students. To achieve this, respondents were asked a question, and from their responses, it is clear that digital education, when not used for students in this fast-moving world, their education will be deformed. The factors mentioned by the respondents include the following: inability to provide digital gadgets for effective learning, unavailability of internet and lack of basic knowledge on digital education, lack of intelligence, lack of good supervision, lack of digital facilities, teachers not available, not able to speak good English.

One of the respondents wrote;

Well, Students not having access to digital devices like laptops, mobile phones etc. also the absence of practical’s affects students’ performance and most student lacks technical skills in operation of digital devices and then coupled with inaccessibility of internet networks and incompetent computer expert i.e., staff or teacher (Respondent 6).

According to the above respondent, any student who could not perform was as a result of no practical session to engage them, which made them not cope with their studies because they were more theoretical. For ladies among them, who also alluded to the fact that there is no equipped teacher to handle the tools and no enough computers available for the students in the school.

Students who engage in digital education always perform well academically. It is easier for an intelligent student to catch up with learning using digital gadgets. However, some students are ignorant and feel lax in their learning. As their attention is constantly divided and diverted from their study, the wrong use of technology also affects their reasoning and makes it difficult for them to cope in school.

The above factors, as observed by the respondent, are accurate. The respondent noted three elements: divided attention, inadequate facilities, inaccessibility of network, and incompetent teachers. Digital education affects the academic performance of student.

A respondent opined that “inadequate classroom space that will accommodate a large number of computers and inadequate capital to get the computers. Secondly, a capable teacher will be needed that will handle the subject very well, especially taking students to the computer laboratory” (Respondent 29). The respondent noted the tangible problems seen in the school. Another respondent reported a personal problem with factors that affect digital education.

Some secondary school student sees the computer as a head subject to acquire just like mathematics, but whenever we begin to see the computer as something that cannot be hard to learn I think it wouldn’t be a problem for secondary school students also can parents find digital education very dangerous for their children because they think that when they have a digital device like phone they would be able to learn all sort of by thing and student could be given digital device on time and taught how to use it safely (Respondent 20).

Below are a few reports from the respondents:

Wrong use of digital devices: some who are given or granted total freedom by their parents or teachers visit sites that are not suitable for them or sites that would affect their education.

Lack of supervision: it would be nice that whenever a student wants to make use of a digital device, he or she should be supervised. A lot of students use their free time on social media if not supervised. Therefore, I strongly suggest that students should be supervised once operating a digital device (Respondent 25).

It is expensive: many schools will be needing to help of government or non-governmental organization support to be able to run a good digital education in their school.

Divided attention (distractions): the use of digital gadget for recreational purposes like playing video games and watching home movie and so on. Had made the main factor that is to affect performance of student are overpowered by recreation. And makes it difficult for student to concentrate.

Lack of digital education of personnel: It is now very difficult to find a competent computer teacher because most universities don’t have practical skills to complement their learning. It has come to the point that it is people who didn’t study computers who now teach such courses in school (Respondent 10).

Poor cooperation from parents or guardians: So many parents are ignorant and exhibit this in training their children because they are not exposed. They are blinded, and this makes them call computers a weapon of the devil. This may be what their pastors told them without proof (Respondent 19).

As asserted by the respondents, it is potent to say that parents, teachers, and society need to contribute their quota for digital education to effectively affect a student positively. One will not overlook the role school play in shaping the digital minds of the students and making them effective in their uses.

Strategy Teacher should apply to be Effective in Digital Education

The fourth purpose of the study is 'to suggest 'strategy teachers should apply to be effective in digital education'. To achieve this, respondents were asked some questions, and from the responses, it is clear that digital education is needed in teaching and learning. Strategies suggested include the following:

Teachers should use digital education in some parts of their teachings, like illustrations, diagrams, charts, and another aspect of learning.

Teachers should be provided with personal laptops to help administer learning well, teachers should be good communicators, and teachers should be the supervisors of students.

Teachers should set limits of what they achieve per time,

Teachers should be well experienced themselves, and

Teachers should accept all students and not discriminate.

One of the respondents suggested:

"The strategy teachers should apply is that teachers should start giving assignments on what they have done and fish out those that are slacking behind" (Respondent 7). This strategy is very important as not to leave any stone unturned. Another said, "There should be an introduction of practical and teaching skills that will make students technologically sound" (Respondent 6). Joining in collaborative learning can help improve the technical skills of students. As the respondent alluded that "to be effective in digital education, teachers should be patient and understanding toward the student during lessons, teaching a student to the best of their knowledge and backing it up with practicals" (Respondent 3). It would be an added advantage when teachers practically train and equip their students very well and nurture them in terms of computers. A respondent thought proper guidance is the best strategy. To another, creative assignments should be assigned to students, and every teacher should always receive feedback from students to evaluate themselves.

One of the respondents noted:

Teachers should apply practical aspects of teaching computer and encourage student to go for computer training during their holiday. They should not only depend on teaching without letting the student to undergo the practical aspect of it and experiencing the fun in it (Respondent 20).

Students using their extra curriculum activities effectively can inculcate the needed skills needed for the education. A teacher alluded that "teachers should be using digital tools in education to make activities more interesting, easy to access, creative, effective and productive" (Respondent 11).

In addition to the above, teachers can take some steps for them to be effective in digital education

One of the respondents alluded: "There will be a drastic drop in academic performance if teachers don't take steps to be effective in digital education. Teachers should ensure that digital equipment are provided and are made available for the study. They should also guide the student in order to perform a certain task" (Respondent 17).

Several respondents have also observed that there are steps teachers should take to be effective in digital education. These are: acquiring the knowledge of computer for those who don't the experience, learning to teach with the digital equipment, there should be an enforcement of the use of digital gadgets in schools, teachers should be oriented on the importance of computer and also teaching them how to operate the computer, it is very important that all teachers should have a personal computer.

Other steps, as mentioned by the respondents, are:

Proper guidance and explanation of sophisticated subjects

Being jovial and open with students for easy understanding.

More practicals and not only focusing on theoretical parts.

Teacher should ask questions to make sure the students are following.

Teachers should be digitally literate.

Teachers should be communicative and manage their time well.

Teacher should use projector and be interrogative.

Teachers should always find out the problems the student has in digital education.

Set appropriate learning goals

Design course structure and learning activities

Master the technology

Decide on the mode of delivery

As shown above, teachers must always practice their field of specialty to gain mastery because things are evolving every day, and teachers need to be updated in their command of knowledge so that they can deliver appropriately.

Academic Performance of Student's Capacity

In addition to the written interview given to all the respondents, the respondents who are students were further tested. The researcher, through the help of the principals, chose students whose academic performance was between first position to tenth position in the last concluded yearly exam. In one of the schools visited, Royal Foundation Secondary School, the respondents were asked to showcase what they could do using the laptop for the researcher. He gave them a simple task, of which three did it without direction, and the remaining seven found it difficult to perform the task. Though their student performance capacity test they responded to, 60% and above, were practically insufficient, though they had high academic performance. Those who did well in the practical were competent because they had computers at home, and one said he goes for computer training apart from what they are taught in school. One of the students scored 90% in student performance capacity and also had high practical skills.

From the test conducted, it could be said that the effects of digital education were specifically high in the secondary school. There was attestation that their capacity performance was 70% on average, and three was below 60% who were very sincere that they were low on the aspect of digital education and desired to grow if given proper guidance. They all were guided to practically exercise and check their digital skills, and most were joyful to partake because they had desired and needed such exposure. One of the student value factors and student ability was 95%, and she proved it in writing and practical.

In summary, the fact that digital education has a good resultant effect on students' moral behavior and performance is glaring. Their results in skills and knowledge improved effectively because of digital education. Students' responsibility had been heightened as they were exposed to digital education. When it comes to communication, their personality is developed, and it erodes shyness and gives room for enhanced communication. Students now engage in initiatives, resulting in a series of independent or minimal supervision that they achieve things on their own. It leads to stability health-wise affects their use of digital tool, and boosts their academic performance. The student agreed that motivation is a very important aspect of encouraging digital education because now digital education makes them more goal-oriented than before. The respondents believe that awareness of the importance of digital education helps them overcome the punches that digital education comes with. With this, one could use the word 'flexibility' because students can now have the courage to accept diverse assignments, and also, they could manage change. Some students were neutral, and some agreed that digital education helps them in problem-solving, suggestion, and innovation. This quality, they think, could be gained by exposure to digital education.

Summary of Findings

The main objective of this study was to investigate the impact of digital education on the academic performance of students. Findings revealed that digital education does exist in various secondary schools and has affected the academic performance of students positively. Reports from both literature and the field have shown that there are some traces of digital education in secondary schools, though there are insufficient gadgets for adequate learning. This fact is solely based on the confession of most respondents whose data were analyzed and interpreted in this study. The findings of this study are therefore summarized thus:

The findings suggest that there are many benefits of digital education to students' academic performance. These include easy access to information; it enhances teaching, serves as an aid to teaching, and enables accessibility of online resources and collaboration. It also helps in student accountability and gives them access to great educational sites. The impact is felt when it helps them to create personalized learning; makes learning more focused, improves skill acquisition, and enhances their communication

One possible explanation for this is that the major negative effect of digital education is a distraction, which causes students to engage in cyber fraud, immodest lifestyle, watching pornography, and copying and pasting assignments from Google without even reading them. However, responsible artificial intelligence can help curb this effect by giving focused results to answers and learning effectively.

The third Purpose of the study was to identify factors affecting digital education among secondary school students. The factors identified are lack of morale, indiscipline, and misconduct. Also, remarks were made to the lack of digital gadgets that make e-learning ineffective, the unavailability of the internet, the lack of basic knowledge of digital education, the lack of good supervision, and the lack of digital facilities are other factors that affect digital education in schools. Nevertheless, providing these instruments of learning is the first step to promoting digital education in Nigeria.

The last Purpose of the study was to identify strategies teachers should apply to be effective in digital education. It was discovered that teachers should incorporate illustrations, diagrams, charts, and other aspects of learning in their teaching. Student

intentionally become responsible in e-learning activities and see it as important and worthwhile from their own personal motivation. The work of the teacher is Just to provoke that desire and interest in students.

Introduction

In this chapter, the conclusion, observations, and recommendations derived from the findings are briefly outlined. Finally, suggestions for further research are presented. The study's area of interest is the impact of digital education on the academic performance of students in selected Secondary Schools in Idemili North Local Government Area of Anambra State.

Conclusion

In summary, the study has demonstrated the impact of digital education among secondary school students, which are objective facts gathered from interactions with literature and through the data received from the respondents. The following are conclusions drawn from the study.

Families, schools, government, stakeholders, and society cannot deny the impact of digital education among secondary school students. It is a fact that its effect is positive and commendable.

It is also concluded that proactive steps and measures should be taken through the formation of policies, laws, and regulations to help implement digital education among secondary school students. This must be deliberate and followed with practical actions at all levels.

Private schools are to copy from the government, not the government copying from private schools. Therefore, the government should make good policies that accommodate digital education in private schools.

Problems suggested was concluded with a way out that stakeholders at all levels of government, school administrators, Parents-Teachers are to play their roles on the impact of the student with necessary digital education and skill that enables the student to be effective in their various endeavor.

Parents and guidance right from home also need to introduce their children to digital education inculcating good discipline. Hence, when they are away from home or out of reach of their Parents, discipline received from home will guide them to do things right.

There should be collaboration between Parents and teachers, School Administrators, and the Government on the strategy of teachers to administer digital education at the secondary school level, which should be indisputable.

The qualities and continuity of effective digital education among secondary schools depend on the state for measures and guidelines that aid learning in our schools.

The problems of digital education in secondary schools are not one man's business; they involve all citizens of the country. All human beings are social animals; they depend on each other for relationships. Therefore, all parts of society need to contribute to effectively deliver on digital education through embracing it.

Observations

The researcher made some observations in this study; the following are observations made:

It was observed that some students are independently empowered digitally but just need a little guidance to help them harness it, while many others have not gotten any awareness or been taught with digital devices before.

It was observed that acquiring the knowledge of computers for those who do not have the experience is important, as learning to teach with digital equipment requires skills.

It was further observed that parental failure to provide good support system to their children attempting to learn with digital device contributes to a failed society. It was noted that once the family gets it right, society will be made better through family group.

Observation shows that many students involved with digital education some times are easily distracted that and they do not concentrate on their study.

The researcher also observed that most parents have no time for their children at the early stage when they need them the most—contributing to all sorts of unsupervised view online which is not healthy.

The observation showed that, if necessary measures are not taken to tackle the problem of digital education in Nigeria on time, its devastating effects may not be curtailed.

Recommendations

Based on the findings of this study, the researcher made the following recommendations as solutions to the impending danger of digital education to secondary school students and society.

Religious institutions, especially the Church, should provide sound biblical discipleship teaching to children while they are still young. Sunday school is a crucial platform to achieve the objective of discipline in students. Therefore, it was recommended that a Christian child should be grounded and rooted in the Word of God while it is possible at a tender age to enable them meet up with the demand of digital education exposure.

It was also recommended that parents, teachers, government, and stakeholders in secondary schools should join in a collaborative effort toward helping to make sure that digital education is accessible to students in secondary schools. The government should make the gadgets affordable and accessible to the students, the parents/guidance should guide the moral consciousness of their ward by instilling discipline, and teachers should be dedicated to their work and help these students develop an unquenchable thirst for digital education.

Government should take their responsibility seriously in providing security to secondary schools and society and to make rules and regulations to protect the citizens. Without people, digital education is meaningless; government should make allocation in the yearly budget for digital education to be massively adopted.

It was strongly recommended that parents should start teaching their children moral discipline right from primary school. Before they reach secondary school, when they eventually become exposed to digital education, and when they can easily absorb the pressure.

Another recommendation was that teachers should be held responsible for guiding the students on digital education in secondary school; therefore, they should upgrade themselves to modern-day teachers. Teachers are supposed to be a good guide for their students: "The teaching of the wise is a fountain of life, turning a person from the snares of death" (NIV), because without guidance, the students will misbehave online.

It was recommended that government agencies at all levels should prioritize the issue of digital education and its free accessibility, making it available to all sons and daughters of the citizens without discrimination based on religious affiliation.

Concerning this issue of negative impact of digital education that is ravaging lives because people cannot defend themselves online, it was recommended that all hands should be on deck to avoid wrong use of the internet that affects people negatively in schools and society.

Suggestions for Further Studies

There are so many variables and gaps not fully covered in this study that may require further investigation. Some of the areas for further studies are:

Comparative Assessment of Traditional Learning and digital Education

Security Enhancement through Digital Education

Impact of Sunday School on Youths and Character Formation

The influence of Technology on Learning Engagement and Moral Formation

The Place of Religious Organizations in Modeling Decent Society.

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